DOCUMENT RESUME

ED 220 824 CS 006 818

TITLE	Maine Studies ECRI.
INSTITUTION	Maine Mastery Learning Consortium, Gardiner.
SPONS AGENCY	Department of Education, Washington, DC. Basic Skills Improvement Program.
PUB DATE	Jun 82
GRANT	G008002878
NOTE	46p.
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Elementary Secondary Education; Program Content; *Program Evaluation; *Reading Achievement; *Reading Instruction; *Reading Programs; *Reading Tests; School Districts; State Programs; *Student Placement; Teacher Response
IDENTIFIERS	*Exemplary Center for Reading Instruction; Maine

ABSTRACT

The articles in this booklet address the questions raised by the Maine Learning Consortium in its efforts to look closely at, describe, and assess the use of programs such as the Exemplary Center for Reading Instruction (ECRI). Based on interviews with six teachers, the first article examines student achievement gains through the use of ECRI. Student textbook placement as one indicator of increased achievement is addressed in the second article, which compares reading placement by grade level in the fall of 1976 (before the use of ECRI) and in the fall of 1980 (after the use of ECRI). The third article describes changes in several achievement subtest scores for students in one school. The analysis of the effect of ECRI instruction on student performance in one Maine school district presented in the fourth article includes several sets of information from different sources to be used by the board of directors as they review programs. The fifth article describes a district-wide program evaluation process that evolved from questions originally raised from the community. The final article describes the Consortium's assessment of changes in teacher's level of use of ECRI based on self-reports from more than 350 teachers over 3 years. (HOD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED220824

Maine Studies
ECRI

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

Maine Mastery Learning Consortium

June 1982

CS006818

Additional copies are available from:
Maine Facilitator Center
P.O. Box 1391
Gardiner, Maine 04345

The materials printed herein are the expressions of the writers. They do not represent endorsement by the U.S. Education Department. The materials were developed with partial funding from grant #G 008002878 from Basic Skills Improvement Program, U.S. Department of Education.

PREFACE

Evaluation has been an integral part of the responsibility of everyone in the Maine Mastery Learning Consortium. Teachers have responded to surveys and opened their classrooms for observation. Board members - principals, teachers, specialists, superintendents, university and state department personnel - devoted hours of reading and meeting to the issues raised by evaluation in the Consortium. Staff members have continually responded to the results of evaluation activities which indicated needed modifications and next steps in their work. As these studies illustrate, evaluation in the Consortium has been an intensive effort of all participants.

Maine Mastery Learning Consortium
Board of Directors

Edward Lagasse
Box 139
Bingham, ME 04920
672-5502

Carol Godomsky (SAD #38)
Livermore Falls Primary School
Livermore Falls, ME 04254
897-3325 (work)
778-4815 (home)

Gerald Clockedile (SAD #42)
Fort Street School
Mars Hill, ME 04578
425-3561 (work)
429-9296 (home)

Joyce Bailey
Union #96
Ella Lewis School
Steuben, ME 04680
546-2430

Lee Sidelinger (SAD #53)
Manson Park School
Lancy Street
Pittsfield, ME 04967
487-2281 (work)
487-5107 (home)

James Hennigar (SAD #59)
36 Main Street
Madison, ME 04950
696-3323

Fran Hale (SAD #62)
Pownal Elementary
Elmwood Street
Pownal, ME 04069
655-4832 (work)
829-5972 (home)

Frances Ambrose (SAD #75)
Walter Williams School
Perkins Street
Topsham, ME 04086
725-4391 (work)
725-6309 (home)

Anne Walker (SAD #77)
27 Main Street
Machias, ME 04564
255-3414 (work)
963-7050 (home)

Nathan Morris (Union #29)
Elm Street School
Mechanic Falls, ME 04256
345-8161 (work)
539-4882 (home)

Joan Mitchell (Union #30)
9 High Street
Lisbon Falls, ME 04252
353-8738 (home)
353-4482 (work)

Robert Caron (Sabattus)
Sabattus Elementary School
Sabattus, ME 04280
375-6961

Timothy Crockett (Litchfield)
Libby-Tozier School
Litchfield, ME 04350
268-4136 Ext. 37

Prue Lord (Wiscasset)
Wiscasset Primary School
P.O. Box J
Wiscasset, ME 04578
427-2087 (home)

Wilder Hunt (Union #74)
Nobleboro Central School
Nobleboro, ME 04555
563-3437 (work)
563-5291 (home)

Joyce Bailey
Union #96 (Gouldsboro)
R.F.D. #1
Ashville, ME 04607

Jan Cambridge (Portland)
13 Montreal Street, Apt. #6
Portland, ME 04101
797-2126 (work)
773-2811 (home)

Carol Eddy
Portland Public Schools
331 Veranda Street
Portland, ME 04103
775-0900 Ext. #254

Caroline Sturtevant
Maine Department of Educational and Cultural Services
State House, Station 23
Augusta, Maine 04333
289-2541

Jim Doughty
University of Maine at Orono
Shibles Hall
Orono, ME 04460
581-7027

Robert Shafto
Maine Facilitator Center
P.O. Box 1391
Gardiner, Maine 04345
582-7211

CONTENTS

Introduction 7

1 Student Achievement Gains Through Use Of ECRI: Teachers' Perspectives 9
Catherine Harding

2 Comparison Of Reading Placement By Grade Level In Fall '76 Before Use Of ECRI And In Fall Of '80 After Use Of ECRI 18
Vance Keene

3 Changes in Student Achievement
Wilder Hunt 21

4 Analysis Of Effect Of ECRI Instruction On Student Performance, Maine School Administrative District #75 23
Frances Ambrose

5 Working Toward Agreement: The School And The Community 31
James Kelley

6 Changing Teacher Behavior Through Training and Classroom Follow-up Assistance 36
Sara Massey and Jeanie Crosby

INTRODUCTION

One of the purposes of the Maine Mastery Learning Consortium was to help the sixteen member districts look closely at, describe and assess, the use of programs such as Exemplary Center for Reading Instruction (ECRI). Looking closely raises questions. The complexity and breadth of ECRI, the one validated mastery learning program used in all Consortium member districts, meant that the questions were many and various. To help participants clarify these questions was the first step in the Consortium's evaluation assistance. The Consortium's evaluation specialist, a part-time staff member responsible for both the evaluation of the Consortium and the development of evaluation skills for participants, worked with Consortium and district staff in collecting, analyzing, and reporting information related to these questions.

The articles in this booklet represent the range of these evaluation efforts. Some studies are quite focused. Catherine Harding interviews six teachers in depth and Vance Keene analyzes student text book placement as one indicator of increased achievement. Wilder Hunt describes changes in several achievement sub-test scores for students at one school. The broad report of Frances Ambrose to SAD #75's Board of Directors includes several sets of information from different sources to be used by the Board as they review programs. James Kelley's article describes a district wide program evaluation process which evolved from questions originally raised from the community. The final article by Sara Massey and Jeanie Crosby describes the Consortium's assessment of changes in teachers' level of use of ECRI based on self-reports from more than 350 teachers over three years.

We hope these articles provide ideas for other educators needing to collect information about program impact and worth.

Jeanie Crosby
Evaluation Specialist

1

Student Achievement Gains Through Use Of ECRI: Teachers' Perspectives

Catherine Harding

INTRODUCTION

Most studies related to ECRI describe student achievement in terms of standardized test scores. In an attempt to broaden the description of student achievement and to understand more about the dynamics of ECRI and student achievement, the Consortium undertook a small study of teachers' perceptions of the relationship between ECRI and student achievement in their classrooms. The participants were six teachers who had used ECRI for at least four years and had a high level of ECRI use as identified by validated self-reports and by staff observations. Each of these teachers had taught for at least seven years and was able to reflect on experiences with student achievement before using ECRI as well as while using ECRI.

Each teacher participated in a structured interview during February and March, 1981. Some interviews were conducted in person at the school and others were conducted over the telephone. The interviewer, the author of this article, was constant.

The development of the interview began with questions that teachers, administrators, and staff were asking. These initial questions were cross-checked with ECRI pods or areas of study to make sure that the interview was inclusive. Questions used in the interview examine achievement in skill areas, student independence and motivation, student attitudes and values, and application of learning from ECRI to other areas. A copy of the interview questions is found at the end of this article.

Catherine Harding is Associate Director of the Maine Facilitator Center.

This compilation of teachers' responses is organized by the questions in the interview. Many responses were similar and have been synthesized here. Specific responses included were chosen for their clarity in representing either divergent or common points of view. The teachers who contributed to this report were gracious with their time and open in their comments. All statements in the next section represent these teacher responses. Conclusions of the author are found in the last section of the article.

TEACHER RESPONSES

I. Specific Skill Development

A. Oral Reading

All teachers responded that students are more fluent in their oral reading. They felt that students know more words and can read smoothly. One teacher said that while children can read more rapidly, their phrasing and expression have declined. Some teachers thought that some children feel self-conscious about oral reading in small groups and that it is easier to use choral reading and emphasize phrasing and expression in more traditional large group instruction.

B. Reading Comprehension

All teachers saw gains in reading comprehension. One teacher said small groupings allowed her to see better when children were comprehending what they read. Another said children show a good understanding of the main idea and that ECRI is as strong as any traditional method in bringing out comprehension skills. A third grade teacher singled out the inferential thinking taught in ECRI and said students like "digging beyond the literal meaning." A second grade teacher qualified her comprehension gains saying children do better with parts of a story than with whole stories because details tend to be lost in extended passages. She had to work harder on comprehension skills than other areas.

C. Word Recognition

Everyone agreed there were enormous gains in word recognition. "Kids seem to absorb word attack skills and recognize new words spontaneously . . . everything begins to gel . . . reading is fun." Teachers said that children associate similar words and parts of words and they begin to understand how they learn new words. Once the children have achieved sight recognition, the repetition in the program helps children retain the words they've learned.

D. Vocabulary Development

Here again, teachers saw gains. One teacher said her students "don't come to school with much of a vocabulary, but ECRI helps them learn varied and abundant words and encourages them to use these words in sentences."

Teachers also reported that the creative writing component of ECRI generates an interest in descriptive and figurative language. Children seem to like learning synonyms, figures of speech and word meanings as used in ECRI. A major indicator to teachers of vocabulary development is the use of new vocabulary in writing.

E. Spelling

Most teachers had solid achievement in spelling in their classes. "The children spell very well - every word they read, they spell." Teachers said that even multisyllable and irregular words are spelled in a first grade classroom if they are used in the children's texts. The children in ECRI classes have word attack skills for spelling as well as reading. Teachers felt that students know how to apply phonics and see relations of parts of a new word to other words they know.

There was some variance in reports of spelling achievement in free compositions. A second grade teacher said almost no errors appear in stories which children write, but a third grade teacher said spelling slips in children's free writing. Many of her children need to work consciously on spelling and seem to spell better in structured writing exercises than in free writing.

F. Creative Writing

All teachers credited ECRI with helping develop fluid, proficient writers. The children write more often, usually five times a week, and write freely in this program. They can expand on a subject and use a variety of sentence forms and openings even in first grade. Teachers said that children are not afraid to speak up while a topic is being formulated or to write down their ideas when they are writing independently.

G. Penmanship

Teachers said children were performing better over all in penmanship than ever before. The first grade teacher said she had to stress control and performance in this skill area because her

children were in a tremendous hurry to write as well as they read. However, the other teachers pointed to ECRI's standards for excellence in penmanship and said they obtained pretty much what they demanded in this area. Teachers cited specific improvements in fine motor control, printing, and in cursive styles. Both ECRI's step-by-step teaching process and use of all learning modalities were seen as contributing to achievement in penmanship.

H. Reading and Writing in the Content Areas

Generally, "children carry over what they have learned about their own learning process to other content areas." This remark summarizes the teachers' views on reading and writing in content areas other than language arts. Children apply word attack skills and "practice time" behaviors to other subjects. Comprehension, spelling and writing skills seem to transfer as well. One teacher observed her children making up their own directives for studying social studies and science. "They want to use what they know in all subject areas."

I. Listening

Ideas about achievement in this skill area stimulated the most disagreement among interviewees. One teacher said listening was much better - "there's something to listen to . . . children want to respond and they want the positive reinforcement." Another said listening dropped off after children were in the program a couple of years. The similarity of directives and the repetition in ECRI seemed to discourage special listening skills. Another teacher's point of view was that listening had improved in her classroom but that listening declined without constant attention from the teacher.

In summary, all language arts skill areas showed improvement in the eyes of experienced ECRI teachers. Certain skills seemed secondary to some teachers and they had to work harder to obtain gains in these areas—comprehension in one second grade, oral reading in another second grade and spelling in third grade—, but one person's obstacle was another's most rewarding area. No one mentioned weaknesses in the program's directives or basic approach to instruction. Rather, they cited their own inadequacies and said they had to learn more about a skill area, or give it more time, or work more directly with the children in order to make similar progress in all areas. They felt that the comprehensiveness of ECRI covering eight language arts skills is a challenge for even the ablest teachers.

J. When asked if there were one skill area where ECRI was especially helpful, three teachers said creative writing, two said comprehension and one mentioned word recognition. Areas that were not helpful were procedures rather than specific skill areas. For example, the requirement for practice time in all skill areas was difficult for some to follow. One teacher said she never had time for extensive practice in spelling. Another said the language arts skill activities in the *Teacher's Edition* of ECRI were hard to fit into the program; however, two teachers were not able to cite any skill areas where ECRI was not helpful.

K. Three additional questions were asked to clarify the basis of information on student achievement and to see how relatively slower or faster students achieved in this program.

1. Teachers felt that most slower students benefit from ECRI. They gain strong foundations for learning; there is less guessing about what they know; and skills are introduced through all learning modalities so children have many opportunities to learn the best way they can. Teachers reported that some children have gained as much as two years of growth in six months of ECRI instruction.

Only one teacher had reservations about using ECRI with slower students. She said some students react negatively to the pacing and pressure in ECRI. She has a few students in her lowest group who are below the others but who cannot be regrouped or transferred to a lower grade because of teacher management considerations. ECRI teachers are encouraged to maintain only three instructional groups per class and this teacher felt she had closer to seven levels in her classroom.

2. All teachers felt that ECRI worked well with most of their children. One teacher said "ECRI is obviously a program for the gifted - children can work on their own level and progress at their own rate." Some made adjustments for advanced students, but did not abandon the program's basic instructional approach. Some adjustments were:

-giving gifted children more comprehension work, introducing irregular word constructions and fading directives
-staying ahead of the most advanced students and providing lots of enrichment activities for them

-allowing gifted children to do reading in content area texts written at a higher grade level
-modifying the pace of instruction and introducing more work.

II. Student Independence and Motivation to Learn

Teachers reported that there were several aspects of the ECRI process which contribute to student independence and motivation to learn:

-orienting children to the learning process and letting them know how to achieve mastery
-providing practice time and the opportunity to organize and complete work as they see fit during that time
-pacing the children so they make progress and see milestones in their learning
-placing the children on or near individual learning levels so they can make steady progress and pass mastery tests often
-encouraging cooperative learning in small groups

The results of these procedures which teachers perceived are that children develop good study habits; they work at their own speed and progress independently; and they help each other more in class. ECRI seems to help students organize their time and effort; they are less distracted and disruptive in class.

The only part of the ECRI process that teachers saw as restrictive is the "lock-stepping". One teacher said that after children have been in the program a couple of years, they do not enjoy the orientation or "lock-stepping" period.

III. Student Attitudes and Values

When asked about student attitudes toward reading and school in general, teachers saw positive changes. They said children like reading and language arts, children enjoy practice time and mastery tests, and children are eager to come to school. Teachers also felt that children like the behavioral reinforcements in ECRI. One teacher said the behavioral aspects of the program gave her more calm and helped her and the class "suffer through" the disruptions of some children. Her

students seemed to know that constructive behavior will pay off more than disruptive behavior.

Another perceived outcome of the program was that children exhibit a more positive attitude toward each other. When the teacher models positive reinforcement, the children imitate that positivism. Teachers felt that children genuinely care about each other's successes.

IV. Learning Related Outcomes - Application to Other Areas

Teachers said that students' increase in reading achievement carried over to other subject areas. A grade 1 teacher said, "the good feelings associated with reading success create receptivity to learn other things." Another teacher cited listening skills improving in other areas—the children anticipate directives and know they will have to respond to instruction throughout the day. A third teacher mentioned carry over in the students' concern about mastery. She uses mastery tests for math facts and core concepts in other content areas.

All teachers said ECRI affected their teaching of all subjects. They used ECRI's management techniques, provided direct instruction, and elicited responses as a matter of course. One teacher summarized the carry over as follows: "My ability to recognize children's needs and teach to those needs is so much stronger. My behavior toward the children affects their achievement in all areas of the curriculum."

CONCLUSIONS

In talking with these teachers using ECRI, it became clear that they perceived outstanding results for students and teachers with this program. The factors which were seen as contributing to this success varied, but everyone had something positive to say about ECRI. When asked what contributed most to student achievement gains, teachers responded:

- "The children learn how to learn, and the teacher learns how to recognize children's needs on the spot."
- "The expectation of mastery contributes to achievement gains. Also, the structure of teaching, the efficiency of introducing new words and the review built into the program contribute to children's successes."
- "Students' attitudes are better so achievement is better. Also, the be-

havior management and modeling of the learning process by the teacher helps children achieve."

-"The integration of language arts skills contributes most to students' achievement. Nothing is isolated."

While all teachers interviewed said ECRI worked for them and their students, each had adapted the program somewhat to suit individual teaching styles or student learning needs. One teacher said she had been leery of the program when it was first introduced but would not teach any other way now. This study offers many examples of the student achievement possible through ECRI but does not propose that achievement occurs independently of caring, conscientious teachers. All these teachers made ECRI work for them rather than resigning themselves to work for ECRI.

STUDENT ACHIEVEMENT GAINS THROUGH USE OF ECRI: TEACHERS' PERSPECTIVE

INTRODUCTION:

The questions that follow look at student achievement in terms of specific skill acquisition, student independence and motivation, attitudes and values, and applications of learning behaviors to other content areas. Questions were derived from open-ended interviews and surveys with users of ECRI. The intent of this interview is to examine as many indicators of achievement as possible from a teacher's perspective.

I. **Specific Knowledge and Comprehension Outcomes**

A. Have you noticed changes in student achievement in the following skill areas:

1. Oral Reading
2. Reading Comprehension
3. Word Recognition
4. Vocabulary Development
5. Spelling Improvement
6. Creative Writing
7. Penmanship
8. Reading/Writing in Content Areas
9. Listening Skills

B. Is there one skill area where ECRI has been especially helpful or understanding?

C. What ways do you measure achievement in your classroom?

D. How does ECRI affect slower students' achievement gains? What about gifted or advanced students?

E. Do you think students are mastering 95% of the skills taught directly through ECRI?

II. **Student Independence and Motivation to Learn**

A. How does ECRI affect students' independence and motivation to learn?

III. **Attitudes and Values**

A. How do students feel about reading/language arts?

B. Do they enjoy the competition of mastery tests?

C. Do students like working at their own rate or do they seem to worry where other children are in their readings?

D. How do students react to the behavior modification and self-discipline encouraged by ECRI: Do they like being in control, being rewarded?

E. Have you noticed better student participation, fewer absences, more overall enjoyment of school since using ECRI?

F. Do your students exhibit a more positive attitude toward each other?

IV. **Learning Related Outcomes - Applications to Other Areas**

A. Do you think students' increase in reading achievement has affected their achievement in other areas?

B. Have you consciously (or unconsciously) changed the way you teach other content areas because of students' achievement in ECRI?

C. Do you see any changes in achievement in these other areas?

D. What do you think there is about ECRI that contributes most to achievement gains?

Comparison of Reading Placement by Grade Level in Fall '76 Before Use of ECRI and in Fall '80 After Use of ECRI

Vance Keene

The Lisbon school system began implementation of mastery learning through the ECRI model in 1977. After three years, both teachers and administrators were sure that students were reading better. In looking for specific indicators of this change, we realized that there was a **pattern of teachers requesting more texts at the higher levels** of the Ginn 360 and 720 series. In the attached chart which compares the reading placement of students in 1976 before using ECRI and in 1980 after using ECRI, the changes are apparent. For example, in 1976 no students were using the Level 12 or 13 reading texts. In 1980, 16⅔% of the 4th grade students and 58% of 5th grade students were using Levels 12 and 13. In 1976, 58% of the second graders were using books below grade level. In 1980, 54% were using books above their grade level in readability.

In the chart, the reading levels 3-14 have been determined locally by applying the Fry readability test and by comparing these results with the Foxie reference. It is important to note that the assignment of reading placements as recorded here are confirmed as "appropriate" through the use of informal reading inventories, standardized reading achievement tests and the recommendations of classroom teachers. Eight of the ten teachers represented in the figures for 1980 have used ECRI for at least two years and several for three years. Some students new to the district may be using ECRI for the first time; others' experience with ECRI ranges from one to three years.

The comparison of reading placements illustrates that prior to the use of mastery learning students entering our classrooms were placed in reading

---

Vance Keene is Principal of the Lisbon Elementary School.

books "at" or "below" grade level. Reading instruction provided limited opportunities for students to be instructed beyond one instructional level above their grade placement. We expected most students to be on or below grade level and that is where we "found" them. Today, there are often five levels of reading texts in any one classroom with an average of 90% of the class reading texts "at" or "above" grade level. In this comparison, we have not tried to separate the influence of students' increased skills from the influence of the more flexible organization for reading instruction on the rise of use of higher level texts. We do feel, however, that use of ECRI has helped us increase students' skills and be more flexible in placing students at the appropriate instructional level.

Through experience with mastery learning, a lot of things have changed at Lisbon Elementary School. We have come to understand the importance of placing students at their correct instructional level, and we have acquired an effective means for accomplishing this through use of the ECRI model.

COMPARISON OF READING PLACEMENT BY GRADE LEVEL - FALL 76/80
LISBON SCHOOL DEPARTMENT

Reading Levels	Average Readability	Grade 2				Grade 3				Grade 4				Grade 5			
		76		80		76		80		76		80		76		80	
		#	(%)	#	(%)	#	(%)	#	(%)	#	(%)	#	(%)	#	(%)	#	(%)
L.3	(?)	3	(04)														
L.4	(?)	9	(11)														
L.5	(1.0)	34	(43)	6	(11)	7	(08)			—				—			
L.6	(2.0)	33	(42)	20	(38)	21	(25)			2	(02)			1	(01)		
L.7	(3.3)			11	(20)	25	(30)	6	(08)	—				—			
L.8	(3.3)			13	(23)	17	(20)	13	(17)	25	(28)			4	(04)		
L.9	(4.3)			6	(11)	14	(17)	16	(21)	24	(27)	14	(23)	15	(16)	6	(03)
L.10	(5.4)	—						23	(30)	33	(38)	24	(40)	30	(32)	14	(19)
L.11	(5.4)	—						19	(25)	4	(05)	12	(20)	45	(47)	11	(15)
L.12	(6.1)	—				—						10	(17)			28	(38)
L.13	(7.2)	—				—				—						14	(19)
L.14+	(?)																
# of Students		79		56		84		77		88		60		95		73	
# of Teachers		3		2		3		3		3		2		3		3	

Post Script: Spring 82

Three years later, the Lisbon Elementary School has learned through its use of ECRI that primary students could progress to upper elementary reading levels causing students to confront reading matter beyond their interest and comprehension levels. Responding to this problem, the Lisbon teachers have devised a plan for the coming year. At the primary grades, ECRI will continue and placement of students will be determined by informal reading inventories and teacher judgement allowing students advancement to the highest appropriate levels of the Ginn 360/720 program. This reading program represents rapid advanced vocabulary development with a balance of instruction in basic comprehension and study skills.

Beginning at grade four, however, students will begin reading in a "new" or "different" series, at an independent reading level. This placement will allow the vocabulary development to change from a word recognition emphasis to an emphasis on usage in written expression. Mastery of extended comprehension, study and creative writing skills can take place more readily at this independent reading level and students will not be subjected to content that is uninteresting or inappropriate.

3

Changes in Student Achievement

Wilder Hunt

In the fall of 1980, Nobleboro Central School began the use of two master learning programs, ECRI and Precision Teaching (PT). Eight staff members participated in ECRI training in the summer of 1980 and four began implementing ECRI strategies in the fall. Six staff members continued training in the summer of 1981 and used ECRI that fall. Five teachers participated in Precision Teaching training in the spring of 1981 and in the fall began to implement PT in math in grades 1-8 and social studies in grades 6, 7, and 8.

The staff became involved in Mastery Learning through ECRI after visiting ECRI classrooms in nearby schools and attending awareness sessions. The school's personnel had already spent much time debating issues of mastery learning and had many unanswered questions such as:

What is mastery?
When has a student reached mastery of a skill?
How do you measure mastery?

The ECRI and PT awareness training sessions seemed to answer many of these questions, giving the staff common ground to work out consistent mastery learning approaches for the students.

In an attempt to collect information about the possible effect of teacher and student involvement in ECRI, the Consortium and the school have looked at changes in students' standardized achievement test reading area scores between spring 1980 and spring 1982. Each student takes the Iowa Test of Basic Skills (ITBS) each year. Included in the study was each student in grades 1-6 in the spring of 1980 who remained in the school in spring 1981 and spring 1982. The scores of students who moved in or out of the school during that time were not used.

Wilder Hunt is Principal and 8th grade teacher at Nobleboro Central School.

The school identified three separate ITBS scores as being particularly important: vocabulary, spelling, and composite reading. Each student's score in each of these three areas was recorded for 1980 before use of ECRI, for 1981, and for 1982. The scores were then analyzed for any significant changes. Results of this analysis follow.

MEAN TEST SCORES IN NCES

Test		Grade in 1980								
		1	2	3	4	5	6	N	Mean	
Vocabulary	1980	69.47	65.20	58.00	48.33	56.06	56.28	97.00	58.88	
	1982	63.00	55.50	57.05	40.42	53.28	52.17	97.00	54.27	
	Change	-6.47	-9.70	-0.95	-7.91	-2.78	-4.11	97.00	-4.61	Not Significant
Reading	1980	67.35	60.80	52.77	42.08	53.06	55.89	97.00	55.46	
	1982	61.00	53.90	58.32	39.08	56.17	53.61	97.00	54.68	
	Change	-6.35	-6.90	5.55	-3.00	3.11	-2.28	97.00	-0.78	Not Significant
Spelling	1980	67.29	65.40	57.73	41.00	57.67	54.67	97.00	57.92	
	1982	56.94	55.80	56.45	38.50	54.44	54.83	97.00	53.58	
	Change	-10.35	-9.60	-1.28	-5.50	-3.23	0.16	97.00	-4.34	Not Significant
N		17.00	10.00	22.00	12.00	18.00	18.00			

This chart presents the mean normal curve equivalent (NCE) scores for vocabulary, reading, and spelling on the Iowa Tests of Basic Skills in 1980 and 1982. The means are shown for individual grades, based on the scores of all students who were in grades one through six in 1980 (three through eight in 1982) and who took the tests with their classes both years.

It is apparent that the changes were small. None were statistically significant by the t test ($p > .05$). As would be expected with beginning scores slightly above the national mean, the majority of changes were slight, nonsignificant decreases. In no instances did scores drop by more than one stanine. Although the standardized test scores do not indicate a significant change in achievement level, several teachers feel that student achievement has increased. In conversations, school staff speak of increased individualization, greater motivation for some students, and specific students whose reading has improved. In light of the difference between professional staff members' judgment and the test scores, Nobleboro Central School might want to look at other ways of assessing achievement. Criterion-referenced tests based on local teaching objectives might be used. This brief study, like most evaluation projects, raises as many questions as it answers. But asking these questions clearly, in this case looking directly at student outcomes, is a school's most important step in finding answers.

4

Analysis of Effect of ECRI Instruction on Student Performance, Maine School Administrative District #75

Frances Ambrose

NOTE:
The Board of Directors of SAD #75 has been particularly interested in the impact of school programs on student achievement. The process for an initial, formative study on ECRI and student achievement in 1979 was developed by a district-wide committee working with Ms. Frances Ambrose, language arts consultant for the district. Members of the committee designed interview schedules and questionnaires, carried out the interviews, and participated in the analysis of the information. In 1981, the Board asked for an additional formative report as a follow-up to the 1979 report. In this process Ms. Ambrose and a mastery learning specialist from the district developed surveys based on the earlier interviews and questionnaires and analyzed information from achievement tests. Ms. Ambrose then prepared this broad report, presented here in slightly edited form, for the use of the Board.

INTRODUCTION

In June, 1979 a report to the Board of Directors of Maine SAD #75 was offered by this consultant regarding the effect of the ECRI model on language arts achievement in our district schools. That report was generated through questionnaires, interviews, and an analysis of achievement test data. Continued interest in the development of student language arts skills through this model resulted in the planning of the present report. A survey of parent, teacher, and student attitude with questionnaires was likewise carried out in the spring and elementary grade students were coded on spring achievement testing, a process which will be explained in part two of this report.

PART I

The questionnaires were designed to assess the attitudes of adults of the school community regarding major assertions of the ECRI model. This adult

---

Frances Ambrose is language arts consultant for SAD #75 and a member of the Consortium's Board of Directors.

population included teachers, aides, secretaries, parents, and administrators. Teachers and students who do not use ECRI were not surveyed. Students were surveyed regarding their attitudes about themselves as learners and about their feelings concerning elements of the program. Respondents were asked to circle a number from one to seven to indicate their degree of agreement with each statement. By circling the numeral one, the respondent indicated strong disagreement with the statement and by circling seven, strong agreement. In averaging responses, choices of 4, 5, 6, 7 were viewed as indicated agreement with the statement.

Adult Survey	% agreement non-teacher	% agreement ECRI teacher
1. ECRI provides a workable vehicle to integrate language arts instruction.	81	100
2. ECRI provides structure to develop on-task behavior.	84	100
3. Direct teaching results in greater student learning.	79	86
4. ECRI develops independent learners.	80	86
5. ECRI provides for individual growth rates.	85	100
6. Students in ECRI develop pride in their accomplishments.	85	100
7. It is important to emphasize the positive in trying to change behavior.	94	100
8. ECRI stresses writing skills.	81	100
9. The gifted can be challenged within ECRI format.	73	79
10. Special education students benefit from the structure of ECRI.	76	93
11. I believe students learn best through a mastery learning approach.	77	100
12. If I were the parent of an elementary school child, I would like her/him to be taught in a class taught by a skilled teacher.	79	93
ECRI teachers only:		
13. Implementing ECRI results in a sense of personal and professional growth.		98
14. I have modified the ECRI format in my classroom.		80

Comments written on the questionnaires by parents, volunteers, and teachers ranged from critical to praising. This variety of feelings about ECRI has characterized our study during the past three years. Some samples:

A volunteer: "My daughter was having a difficult time reading. Since she has had ECRI, she has improved 100%."

A teacher: "I still enjoy the program - most enjoyment coming from the feeling of being in touch with students' needs. I'm convinced that review and practice to mastery is the best technique for learning. Students seem to feel a great sense of achievement when they've worked to master a word, skill, etc. The biggest problem I have is with the negative (and often unfounded) opinions of the public."

A parent: "Although I agree that writing skills are stressed, what impresses me the most about the program is the way my child comprehends the written language and expresses herself orally and in writing. Some may be due to natural ability, but I credit the ECRI program with her rate of progress. I do not feel that she would have progressed at the same rate in a classroom where spelling, language, and reading are taught as isolated subjects."

Other parents: "I believe this to be the best form of teaching I have ever come in contact with . . . My daughter's spelling amazes me . . . Please understand that we are staunch supporters of ECRI and would welcome the chance to elaborate on any of our responses to particular questions."

A parent volunteer: "There is too much structure . . . has an adverse effect on 'on-task behavior'. I have no evidence to prove ECRI develops independent learners. First of all, when a child is already intrinsically motivated, independence plays its part. Second, when a child goes from the structure of ECRI to a less structured class, what happens? I feel ECRI is too test oriented and too little joy of knowing and doing oriented!! I have never found one method of teaching right for all students in a classroom."

Parent: "My son had this program in another school system last year. When I learned that he would again be in the program in this town, I was grateful, for I feel this is the most beneficial program for instructing all types of students, be they exceptional, average, or a difficult learner."

Student Survey	% agreed
1. My compositions are better than they were in September.	97
2. I am a better reader now than I was in September.	94
3. I know how to go about learning what I need to know.	90
4. My reading vocabulary has improved.	100
5. I understand what I read.	96
6. I like:	
a. read-a-story (enrichment reading)	93
b. write-a-story (creative writing)	84
c. learning words	88
d. learning writing skills	84
e. study skills	81
f. comprehension skills	87

g. dictation	89
h. conferences	93
i. spelling	93
j. group discussion	86
k. practice time	94
l. mastery tests	96

Some students' written comments:

"I've always been a good reader, but now in ECRI I learn about reading and study skills more."

"I would like to be in an ECRI class next year because I like practice time."

"I think it has helped me improve my learning skills."

"I feel I've improved a lot of things especially penmanship."

"I enjoy talking things over."

"I've learned a lot in spelling because I'm learning words I have never known."

SUMMARY OF QUESTIONNAIRES

Adult surveys and comments again, as in 1979, point to accomplishment of the goals on which the ECRI model is based. Although most of the comments are positive, the extremes in comments are typical and reflect the controversy this program seems to generate. Administrators are perplexed regarding the cause of the controversy; what one person may despise, another praises. Student responses were consistently positive.

PART II

Teachers in SAD #75 first volunteered to train in and implement ECRI in November of 1977. Others have trained as opportunities were made available during the summer months. More than half the teachers who currently are known as ECRI teachers have voluntarily taken follow-up training. All teachers have received on-site assistance and the district has identified two mastery learning specialists who are available to continue staff development.* There are presently thirty teachers, approximately half the staff, who use ECRI techniques in the elementary grades, and three more are planning to implement it following summer training. A number of teachers who have trained in ECRI and have not continued to be directly

*Since the writing of this report, four additional mastery learning specialists have been identified and trained.

associated with the model do continue to use aspects of it in their programs. Therefore, students in SAD #75 schools have a range of experience with ECRI in their classrooms. This range is reflected in the coding system described below.

The following numbers of students have been taught through ECRI techniques for **at least one year** during the elementary grades, as of June, 1981.

Kindergarten	24/82	Grade 4	187/234
Grade 1	160/188	Grade 5	189/235
Grade 2	178/208	Grade 6	176/230
Grade 3	219/243		

The students in the above count have been instructed in ECRI purely on the basis of whether the teacher in question has chosen to use this method of instruction. The utilization of this model is voluntary and after the first year of implementation, the decision to continue in the model is made by the teacher. Teacher fidelity to the model also varies greatly in our district with those who are attempting to develop the program at various levels of proficiency. Teacher experience with the model varies greatly. Therefore, while this study attempts to report student performance of ECRI students on the California Achievement Test (CAT), it was unable to identify the variation in teacher performance within each group. Further, it was not possible to indicate how well these students performed a year ago. All we can look at is how well our elementary students scored in reading and language arts this year.

Due to the above limitations, nine codes representing student experience with ECRI were used to look at student performance in kindergarten through grade 6 on the CAT.

Code 1: student who is presently in an ECRI classroom and was in an ECRI classroom during 1979-80 and 1978-79 school year. (Three consecutive years.)

Code 2: student who is presently in an ECRI classroom and has been in an ECRI classroom during any other two years prior. (Three years but not consecutive)

Code 3: student who is presently in an ECRI classroom and was in an ECRI classroom during 1979-80 school year, only. (Two consecutive years.)

Code 4: student who is presently in an ECRI classroom and was in an ECRI classroom any year previously, except 1979-80. (Two non-consecutive years.)

Code 5: student is presently in an ECRI classroom but has never been in an ECRI classroom any three years previously.

Code 6: student is not in an ECRI classroom, but has been in one ECRI classroom any three years previously.

Code 7: student is not in an ECRI classroom, but has been in an ECRI classroom any two years previously.

Code 8: student is not in an ECRI classroom but was in an ECRI classroom for one year previously.

Code 9: student is not in an ECRI classroom and never has been.

RESULTS OF TESTING:

The following conclusions are based on an analysis of coded group performances using mean scaled scores of these groups and local (total) mean scaled scores. Mean scaled scores may be understood to be a translation of raw scores (number correct) to an equal interval scale ranging from 000 to 999. Mean scaled scores on the CAT change for each subtest as they reflect the average performance of the norming population; therefore, our local means will change for each subtest, also. Local mean scaled scores are averages and therefore include the scores of each of the coded groups. Students are placed heterogeneously in classroom groups with great care given to maintaining a range of ability and achievement in each group.

Kindergarten: There is only one ECRI kindergarten in this district. Mean scaled scores in the pre-reading battery of this group of students who have had ECRI for one year (Code 5) was higher than other kindergartens (Code 9) and was 27 points above the local mean.

Grade One: All but one of the first grades are identified as ECRI. This group of 160 first graders (Code 5) outperformed the non-ECRI classroom (Code 9) by fifteen points in reading and thirty-three points in language.

Grade Two: Code 3 second graders, students who have been in ECRI classrooms for two consecutive years, received scores in vocabulary and comprehension equal to or better than the local average but did not perform as well in these subtests as Code 9 students who have never had ECRI. However, Code 3 students and Code 5 students (this was their first year) outperformed Code 9 in spelling, language mechanics, and total language scores. Code 9 second graders were an intact classroom of 22 students.

Grade Three: Code 1 third grade scores reflect performances of students who have been instructed in ECRI since entering first grade. Scores in reading and language arts were higher than Code 9 group by nineteen scaled score points and twenty-one scaled score points, respectively. The scores of this group of students were also superior to the local mean in all reading and language subtests in a range of ten to twenty points. This profile was consistent for third grade students who had been in ECRI two years, whether they were currently in an ECRI classroom or not (Code 3 and 7). This grade is perhaps the most pertinent one to study when looking at the impact of ECRI in our district, as it contains students in all the codes except 6 as well as students who have never had ECRI and those who have never had any other type of instruction.

Grade Four: Students who had had ECRI one year outperformed other coded grade four students. The effect of ECRI training was difficult to assess at this grade except to conclude that students who had had one year of ECRI outperformed those who had had none. Code 6 students, however, outperformed other groups who had been instructed in ECRI two or three years.

Grade Five: Students in Code 1 and 2 outperformed other coded groups, often by more than twenty scaled points. According to this coded profile, the impact of ECRI in the intermediate grades appears to be considerable. Reading comprehension and language expression, major goals of language arts instruction in the intermediate grades, are superior in these coded 1 and 2 groups.

Grade Six: Coded groups for grade six are 5 through 9. Code 5 represents one classroom of six graders who had ECRI instruction for the first time this year. This classroom outperformed all other coded groups in grade six except in spelling. This classroom also received scaled scores in excess of the local mean in reading and language. Coded group 6, students who were not currently in an ECRI classroom but had had training for three years previously, also were superior to Code 9 in comprehension, language mechanics and expressions as well as total language scores. Code 6 students were superior in spelling.

SUMMARY

On the spring, 1981, California Achievement Test, SAD #75 students who have been instructed in ECRI generally outperformed students who have not participated in this approach. Initial pre-reading skills taught in kindergarten through this approach appear demonstrably stronger than in non-ECRI classes. Primary reading and language arts instruction pursued through this model, as assessed on the CAT, appears to grow stronger according to the number of years students have participated in the model. Indeed, analysis of grade three results points to the significant impact of ECRI on achievement.

Concern about ECRI's stress on language mechanics and reading comprehension seems unfounded as students in these coded groups in primary as well as intermediate grades excelled in mechanics and comprehension. While there is no clear pattern, spelling instruction in some intermediate grade ECRI classrooms may need further development.

Grade four results do not follow the pattern of the other six grades. This writer has no reason to offer at this time. However, the pattern of grade five and six ECRI groups suggests a strong correlation between this approach and superior reading and language arts achievement scores on the intermediate levels of the CAT.

Readers of this report should be sure to note that all ECRI goals are not and cannot be measured on a standardized test. Developers of this program as well as the teachers trained in it stress learner attitude and development of study skills as a major goal. Teachers, particularly, note how this approach teaches students how to learn and how to know when they've learned. As only one mastery learning system, ECRI nevertheless stresses high expectancy for student and teacher performance as long as one is given quality instruction and sufficient practices. Hence, teachers in this model point to the development of learner attitude as one of the ECRI strengths.

The development of creative writing skills stressed in ECRI classrooms isn't assessed on the CAT. Parents and teachers see this aspect of ECRI as particularly important.

At this point in the implementation of ECRI in SAD #75, the model has begun to be adapted to local needs. Teacher personality has shaped its adaptation as have the needs of individual students. While there are critical elements which must be maintained in a mastery learning classroom, ECRI classrooms district-wide possess their own individual flavor. This mastery learning model also has provided the district with a springboard for staff development in its teacher-led seminars and demonstration classrooms. Furthermore, implementation of this model has generated interest in mastery learning as a concept, as well as interest in other mastery learning models. Therefore, the impact of ECRI on this district cannot be measured by standardized test results alone. Many of its positive effects can only be seen in the spin-offs in teacher, administrator, and student attitudes about their own ability and the ability of others to accomplish personal goals.

5

Working Toward Agreement: The School and The Community

James Kelley

From the time teachers in SAD #59 began to use ECRI, parents' ideas and feelings have been a part of the program assessment process. Families and the larger community continue to be interested in reading and writing. They have an important stake in young people learning to use the language well. They hear children's comments about "what happened at school today." Families know when children can read the newspaper and watch children's approach to homework, etc. Parents also have a sense of and questions about whether an instructional process—what happens in school—is congruent with their values related to learning.

For several years parents' questions, ideas and feelings about ECRI use were collected through informal conversations with individual teachers, administrators, and school board members. As representatives of the community, school board members received information and made decisions about ECRI, including the allocation of funds for continued training, the purchase of materials, and other support. In the fall of 1979 after 2 years of ECRI use, the school district used a formal survey process to gather information and responses from all parents as part of the ongoing program assessment process.

The survey questionnaire was developed for the specific purpose of providing a way for all parents to share their thoughts about the ECRI program, their feelings about their child's reading progress, and their perceptions of their child's feelings about the program. A copy of the questionnaire, which was originally used in Portland and revised for use in SAD #59, appears at the end of this article.

Over 70% of the parents responded, indicating an active interest in their child's learning. This high response rate on a questionnaire sent home with and returned by students is an illustration of the seriousness with which parents in SAD #59 take their dialogue with the school and of their trust that

James Kelley is Elementary Supervisor in SAD #59

their responses are valued and listened to. Analysis of the responses yielded the following conclusions:

—although the survey was completed in early November, more than two-thirds of the parents responding had already talked with their child's teacher about ECRI

—most parents felt that their child enjoyed ECRI and using language arts skills
- 89% of parents responded that their child enjoyed reading instruction and working on mastery tests
- 85% of parents responded that their child enjoyed reading at home and creative writing

—most parents felt that their child was both making good progress and was aware of that progress
- 91% of parents responded that their child both was making good progress in reading and seemed to be aware of their progress
- 93% of parents responded that their child improved in spelling ability
- 91% responded that their child improved in handwriting

About one-third of the respondents offered comments on the program in addition to responding to the defined questions. The extensiveness of the comments indicated that parents were closely observing the program. Positive comments ranged across the program and often expressed appreciation of the program and support for the schools. Negative comments focused on mastery tests and speed of response desired in mastery tests. The district's response to parents' ideas and concerns was broad. The monthly newsletter to parents, "Elementary Echoes," carried articles about ECRI and other programs. Half-day, grade level teacher meetings on ECRI were scheduled to share ideas and materials and to discuss issues raised by parents about ECRI strategies such as mastery tests. For example, the inclusion of difficult or foreign words used in the reading on mastery tests was modified through these meetings.

Two years later in the fall of 1981 as the questionnaire was being revised for a second survey of parents, a group of parents came to the school administrators with concerns about ECRI. In general, these concerns extended the negative comments on the initial survey and included these parents' perceptions about:

—the use of timing in the program, especially with regard to mastery tests
—the drill emphasized in the program which seemed to "turn off" some students
—the desirability and the inconsistency of the emphasis on "mastery"
—the heavy emphasis on spelling and the neglect of the spelling of common words
—the emphasis on rewards and the resulting competition among students
—the role of oral reading and response as they affected other students involved in the learning process
—the advisability of using one approach to the language arts instructional program

These parents articulated their concerns in a letter containing more detailed and organized information than would have been obtained through the survey. At this time, the assessment process moved from informal conversations and pencil and paper surveys to a personal process conducive to parents', teachers', and administrators' mutual exploration of ECRI and its use in SAD #59. During the next four months, the groups involved were part of an assessment process with two concurrent components of parent meetings and teacher meetings.

All parents were invited to a series of meetings about ECRI. Approximately twenty-five parents attended the initial meeting where they talked informally, developing a list of their concerns with the program. Interest in continuing the conversation was high and a system was established for informing people of the next meeting. The second meeting held two weeks later provided information on ECRI and its teaching strategies followed by a question and answer period with a training specialist from the Maine Mastery Learning Consortium. At the end of this second group meeting, it was clear that a number of parents had specific concerns and were frustrated in group meetings by the lack of time to deal with individual problems. Therefore, the elementary supervisor set up individual conferences with each of the 30 parents who wanted to talk privately about their specific concerns. After the individual conferences, parents met for the third time as a group. The outcome of this last in the series of group meetings was that parents wanted flexibility in the program and wanted to know the extent to which teachers could and would modify the program for individual learning and teaching styles.

Meanwhile, administrators and teachers were meeting together in grade-level groups to discuss and assess their satisfaction and concerns with this process of teaching language arts. An important topic was the extent to which individual teachers felt they had permission to modify the program.

This mutual concern about program modification was the focus of the next segment of the assessment process. A task force of teachers from each grade level met each Monday after school for five weeks to address issues raised by parents and teachers. Program modifications which responded to parent and teacher concerns were developed and included in a draft report for teachers. In a workshop, SAD #59 teachers in grades K-7 reviewed and approved this report. They were particularly pleased to see possible options or alternative teaching strategies described in writing.

A copy of this report was then mailed to each parent who had signed the letter of concern four months earlier. After reviewing the report, the leader of the concerned parents' group sent a letter of appreciation for the responsiveness of the school administrators.

This collaborative assessment process regarding use of ECRI has had results valued by both parents and teachers beyond the final report. A broad review of language arts scope and sequence and selection of a new basal reading series is planned for the next school year. A process for successful collaborative assessment involving parents, teachers and administrators in SAD #59 has been established. Time to discuss problems and develop solutions, energy to work with both groups and individuals in different formats and the willingness to listen to different points of view have all been acknowledged as important in this process. The next stop in the continuing assessment of SAD #59 programs is sure to build on these learnings from ECRI.

Your point of view as a parent is important. Please check the appropriate column.

	Yes	No
Have you talked to your child's teacher about ECRI?	☐	☐
Has your child:		
1. Enjoyed reading instruction?	☐	☐
2. Made good progress in reading?	☐	☐
3. Improved in spelling ability?	☐	☐
4. Improved in handwriting?	☐	☐
The passing of Mastery Tests is an important part of the program.		
Does your child:		
1. Discuss the tests at home?	☐	☐
2. Seem to be aware of his/her progress?	☐	☐
3. Enjoy working on mastery tests?	☐	☐
Does your child:		
1. Enjoy creative writing?	☐	☐
2. Enjoy reading at home?	☐	☐

Please add any other comments you may wish to share with us.

Comments: _____

_____

_____

_____

_____

_____

ECRI PARENT EVALUATION QUESTIONNAIRES
Summary of Responses*

	West. Ave.		Old Pt. Ave.		Seb. Rasle		Ath. Elem.		Som. Acad.		Junior High	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Have you talked to your child's teacher about ECRI?	17	5	93	42	57	31	21	7	12	8	7	75
Has your child:												
1. Enjoyed reading instruction?	22	—	123	12	75	13	31	—	17	5	70	12
2. Made good progress in reading?	21	—	125	6	79	7	29	1	14	5	72	7
3. Improved in spelling ability?	24	1	111	7	82	5	29	3	15	4	77	6
4. Improved in handwriting?	21	—	124	8	76	13	27	1	17	2	68	10
Does your child:												
1. Discuss mastery tests at home?	20	1	126	11	73	25	27	4	14	6	50	36
2. Seem to be aware of his/her progress?	22	—	109	8	79	9	28	3	17	3	72	9
3. Enjoy working on mastery tests?	19	—	122	9	73	15	29	1	17	4	69	13
Does your child:												
1. Enjoy creative writing?	18	—	122	12	67	19	30	2	15	4	66	18
2. Enjoy reading at home?	23	—	119	11	71	17	30	1	16	3	57	25

*Out of 553 questionnaires distributed, 391 were returned: or 70.70%

6

Changing Teacher Behavior Through Training and Classroom Follow-up Assistance

Sara Massey and Jeanie Crosby

INTRODUCTION

The Maine Mastery Learning Consortium of sixteen school districts provided training and classroom follow-up to teachers and administrators in the implementation of the mastery learning instructional models of Exemplary Center for Reading Instruction (ECRI), Precision Teaching (PT), and Conceptually Oriented Mathematics Program (COMP). The goal of Consortium services was to increase teachers' level of use of the critical teaching behaviors related to the five elements of the Consortium's definition of mastery learning present in these validated instructional programs. Higher levels of use means using more of the critical behaviors more often. A large part of Consortium resources were allocated to support districts in their use of ECRI, the only program used in each member district. Therefore, the focus of this evaluation study was the level of use of these critical teaching behaviors in ECRI.

The need for a consortium evolved during the years after the Maine Facilitator Center (MFC) introduced ECRI to Maine districts in 1977-78. Two school personnel attended an ECRI awareness session and encouraged the MFC to obtain training services for interested teachers and administrators. An ECRI consultant in New Hampshire provided early training in ECRI to school personnel in Maine in 1978-79. As the number of Maine districts adopting ECRI grew, the need for an in-state ECRI trainer became apparent. A Title IV-C grant to Union #30 (Lisbon) supporting ECRI implementation allowed the hiring of an ECRI trainer for work in Maine during 1979-80. Services were delivered through a combination of

Sara Massey is Manager of the Consortium. Jeanie Crosby is the Consortium's Evaluation Specialist.

local funding from twenty-two districts and Title IV-C monies. Two of these districts had also adopted PT. The need for training and follow-up services related to mastery learning programs was increasing and beginning to expand beyond the initial focus on ECRI.

Representatives of sixteen districts met in the fall of 1979 to discuss the development of a consortium, a formal association of schools with a common interest and need for the purpose of sharing resources to meet that need. In the spring of 1980, these districts agreed to create a consortium and the staff of the MFC with assistance from the ECRI trainer submitted a proposal to the federal Basic Skills Improvement Program for partial funding of a consortium. This proposal was funded for two years, creating the Maine Mastery Learning Consortium.

The theoretical foundation for the work of the Maine Mastery Learning Consortium was based in the research on mastery learning. The Consortium's evaluation specialist in a review of the research on mastery learning identified the following critical teacher behaviors:

1. Teachers plan curriculum and instruction to meet specific objectives.
2. Teachers spend significant time on learning tasks related to the objectives.
3. Teachers use effective instructional practices.
4. Teachers continually assess student progress.
5. Teachers implement corrective procedures quickly.

The services provided by the Consortium to assist ECRI teachers in acquiring the identified teacher behaviors included:

1. school-based assistance

    a. demonstrating identified skills teachers want to see modeled
    b. team-teaching with a teacher to improve usage of a technique
    c. observing a teacher to diagnose and prescribe more effective ways to implement
    d. conferencing with a teacher to answer questions and provide feedback
    e. coordinating a visit by a teacher to another teacher's classroom
    f. conducting 1-2 hour mini-workshops on some skill requested by several teachers
    g. doing jam sessions to present information, answer questions and concerns, share information, and make materials
    h. doing awareness sessions for parents, administrators, aides, or other teachers to help them understand the program
    i. assisting in designing local evaluation studies

2. regional assistance

   a. conducting awareness presentations on programs not yet adopted by a district
   b. training sessions

3. statewide assistance

   a. coordinating conferences on specific problem areas
   b. implementing workshops for teachers at various grade levels
   c. training local mastery learning specialists to continue services at district level
   d. disseminating a teacher-oriented newsletter

The Consortium provided these services through a staff of five: a project manager (40%), a training coordinator, a trainer, an evaluation specialist (20%), and a secretary. The Consortium operated through a Board of Directors representing each member district, the University, the State Department of Educational and Cultural Services, and the MFC. The Board provided information and made policy decisions to ensure successful delivery of quality services to help teachers increase their level of use of the critical teaching behaviors as present in the validated mastery learning programs.

EVALUATION METHODOLOGY

The Consortium's evaluation design was based on two criteria:

- —the evaluation's indicators of success would be based on changes in teachers' level of use of critical teaching behaviors related to the elements of mastery learning
- —the evaluation's activities would enhance rather than detract from the daily work of the Consortium staff and its participants

The final design included a series of three teacher self-reports which would take 10 minutes or less for response and set of two classroom observations of a small sample which would collect information for the validation of the self-reports.

The self-reporting instruments were developed using program descriptions, training materials, conversations with program developers, and review by experts in mastery learning. Members of the Consortium's Board of Directors representing each member district distributed and collected the self-reports from teachers using ECRI. Self-reports were obtained from teachers using ECRI in September '80, the second month of formal Consortium operation. Observations and self-reports of ECRI users were obtained

in March '81 and March '82. The three sets of self-reports completed by the participating teachers and the two sets of classroom observations conducted by trained observers were designed to assess the variables of teachers behaviors in sufficiently common form to permit comparison of the self-ratings with those observers. These behaviors include frequency of use of strategies such as specified time ratios, mastery tests, informal reading inventories, group discussions, individual conferences, groups of directives; response to positive behaviors and response to negative behaviors; extent of record keeping; and procedures for grouping. A copy of the self-report instrument appears at the end of this article. Level of use definitions from A (high) to D (low) were developed using these behaviors found on both the self-report and observation instruments.

The self-report instrument formed the basis of the observation instrument which was also reviewed by experts in mastery learning. The observers came from a group suggested by Board members as persons with training in ECRI, interest in mastery learning, and a desire to refine their skills in observation. These eleven reading consultants, principals, and teachers met 1) to train in the use of the instrument and 2) to assess inter-observer reliability in use of the instrument. A majority of this group of observers participated in the second set of observations in 1982. Inter-observer agreement was obtained to a significant level on all sections of the instrument.

Another major element of the training was to increase understanding of the entire study for observers. It was expected that observers would give clear, consistent responses to the teachers being observed about their role in the study, how they were selected, the usefulness of the information from the observations, etc. The topics of making the initial contact, entering the classroom, and giving feedback were addressed through role plays until the observers were comfortable and effective in these tasks.

An initial sample of twenty teachers in grades 1-6 from eleven school districts to be observed was chosen randomly from each level of use in proportion to the percentage of the total respondents in each level in fall '80. One percent of the self-report respondents were in level A (the highest), 13 percent in level B, 19 percent in level C, and 67 percent in level D (the lowest). This observation sample remained constant even though the proportions of teachers at each level changed in each set of self-reports.

The evaluation specialist contacted each teacher in the random sample to describe the study and to obtain his or her permission to be observed. Of the 26 teachers contacted, only four (three from one school) did not wish to participate. Letters following up on the phone calls were sent to the 22 willing participants and their Board representatives. Because of illness and scheduling problems, two teachers in the sample were not observed in '81. In '82 one

of the original group had moved and was not observed again, while one of the original group who had not been observed in '81 because of illness was observed.

Analysis of the observations and self-reports of the sample of teachers indicates that the self-reports are valid representations of what teachers are doing in the classroom. The two components, behavior management and number of directives used, which did not show statistical significance in the comparison of spring '81 self-reports and observations were refined and tried again in '82. This time a statistically significant correlation was found between teachers' reported and observed use of groups of directives. The only area of the self-report which has not been validated is response to positive and negative behavior. In fact, many teachers rate themselves lower on this strategy than observers. This concern generates the most comments on self-reports and is clearly an area which teachers are continuing to develop. These two sets of observations had important outcomes in addition to collecting information. Observers gained refined skills, had a chance to visit classrooms outside their districts, and the opportunity to talk with other ECRI users. Teachers observed reported a sense of important participation in an evaluation study and pleasure in having a possible source of information about both the study and ECRI in their classroom. Observers and observees both reported initial nervousness and growing comfort. The rich contextual comments written on both the observations and the self-reports are reported in the following section as "findings" along with the more quantifiable checks and ratings.

FINDINGS

More than 350 ECRI users have provided self reports from which these findings are drawn: 272 in fall '80, 236 in spring '81, and 199 in spring '82. The spring '81 self-report added a number of assistants, aides, junior high teachers, and resource room teachers who use ECRI in different time schedules and various grouping patterns. Of the spring '82 respondents, 110 had also responded to the initial self-report in the fall of 1980. It is estimated that almost all ECRI users in member districts responded to these self-reports, thus providing a comprehensive picture of program use within the Consortium.

Strategies

Mastery tests and IRIs are used almost universally. However, the use of small group discussions and individual conferences varies greatly. In order to understand better the relationship between the reported and observed low use of these strategies by some teachers and the varying time schedules used by some teachers, a question was added to the '82 self-report. Teachers were

asked if they used the 1:2:1 ratio daily or weekly and to describe their actual time schedule if it varied from the prescribed ratio. It is clear that teachers are exercising judgment in working around time constraints. Group discussions seem to have the lowest priority. Some teachers report leaving out back-up skills. Others have problems organizing practice time within their schedules. Reorganizing is demanded at the upper grades where they are departmentalized. The differences in time allocated to the program either by the individual teacher or the school's schedule are wide and must be described and accounted for in assessment of program use. For example, of the spring '82 respondents, 29% of those at level B used ECRI 3-4 hours a day while 29% of those at level D used ECRI for 1 hour or less and 58% of those at level D used it less than 2 hours.

Directives

There are teachers who report using all the directives; there are teachers who report using none. The directives most used are those for teaching new words. In the 1981 self-reports and observations, the actual number of directives used were in close agreement. In the 1982 self-reports and observations, use of the eight groups of directives were tabulated rather than the actual number of directives used. There was significant level of agreement between the number of groups of directives used in the self-reports and the observations.

A number of teachers commented on the self-reports that they do not use the directives "exactly". Several others stated that either they or their students, especially in upper grades, found the directives "boring" after a time. And one stated that she used the directives only for social studies as she was not using ECRI that year!

Management

Again in the third set of responses, many teachers chose to comment on their concerns about reinforcing positive behavior and ignoring negative behavior. These responses differ from the '80 and '81 responses in that there is less questioning or agonizing about these techniques. Rather, teachers stated that they try to reinforce positive behavior, that they are doing it more, and that they have no concerns about it. Comments about ignoring negative behavior are more calm and less strident than in '80 or '81. Instead of saying why the technique will not work, teachers described the times at which they do respond to negative behavior. In general, these comments are less defensive and reflect teachers' experiences with use of the techniques. A number of people also commented on their use of assertive discipline techniques in relation to ECRI.

Satisfaction

Many respondents used this opportunity in the '82 self-reports to praise the program - "Hooray, it works!" Others explained the complexities of their use of the program and their satisfaction with it. There are comments like "it's great for creative writing," "it fosters independence," "students who aren't independent have trouble," etc. Some respondents state that they are satisfied with the program now because they have modified it to suit their needs. In other words, they are not satisfied with the whole program, but they are satisfied with their own version.

There were also several explanations about the level of satisfaction with the program assistance received from others. Some people differentiated between assistance from ECRI teachers and from non-ECRI teachers. A number of teachers commented that they had received help when they asked for it, but that they rarely asked. For the first time, respondents mentioned the local specialists, saying they were helpful.

Help Needed

Help teaching comprehension and study skills was the greatest area of need as in '81. Managing time in making materials, organizing practice time, and finding time for small group discussions was another primary area of need. There is also a strong relationship between relatively new users and statement of specific needs for assistance. Users with longer experience tend not to state needs for assistance with specific groups of directives, for example.

Most important perhaps were many comments that described general satisfaction and comfort with use of the program. These respondents mentioned that they hoped grade level and other cross-district meetings or brief workshops would continue. It appears that many of the spring '81 respondents who wanted to reflect on, assess, and make decisions about their use of the program have done just that. In 1982, there seems to be a large group of "mature" users who have made ECRI theirs.

Levels of Use

The assessment of change in level of use of the elements of mastery learning is a primary purpose of the Consortium's evaluation. A "level of use" definition and formula was developed which included frequency of use of basic ECRI strategies such as mastery tests, time ratios, discussion groups; frequency of use of groups of directives; and extent of record keeping. Each

of these areas of the self-reports was validated by observations. The self-reports yielded the following levels of use:

Fall '80

Level A	1 person	(-1%)
Level B	37 people	(14%)
Level C	52 people	(19%)
Level D	180 people	(66%)

Spring '81

Level A	5 people	(2%)
Level B	26 people	(11%)
Level C	76 people	(32%)
Level D	129 people	(55%)

Spring '82

Level A	7 people	(4%)
Level B	44 people	(22%)
Level C	114 people	(57%)
Level D	34 people	(17%)

As the percentages indicate, there has been a statistically significant change in teachers' level of use of ECRI during the Consortium's operation. Proportions of teachers reporting at levels, A, B, and C increased while the proportion at level D dropped dramatically. At the same time, statistical analyses of the changes in level of use of the 110 individuals who responded to self-reports both in fall '80 and spring '82 does not indicate a significant association between individual change and the years of the Consortium's operation or the amount of training. There is, however, a significant association between increases in level of use and years of use of the program.

CONCLUSIONS

It appears that during the Consortium's operation the large portion of member districts' staffs which were using ECRI in bits and pieces began to use more of ECRI more often. Many teachers came to use ECRI more extensively, but also integrated and modified the program within their classroom. Additionally, the comments of users indicate that they have a greater sense of control over the program and that they have made the program theirs.

Central to the Consortium's evaluation process was the belief that evaluation is an appropriate topic for all participants and that everyone can contribute to evaluation. The Consortium devoted a large amount of resources in terms of energy, time and expertise to evaluation. The staff spent many hours helping develop instruments and reporting to participants; Board

members devoted several meetings to the topic; and ECRI users responded several times to self-reports and requests for observation. Much has been gained beyond the described data from extensive participant involvement in this evaluation study. Certainly, there is greater clarity about the goals of the program and the Consortium. Teachers who participated in self-reports and observations seem to increase their awareness of their classroom behavior. The staff, Board members, school administrators, and teachers have more information about the levels of use of various components of validated programs, areas of greatest strength and weakness in program use, and the need for continuing staff development activities. Perhaps, most importantly, participants seem to feel more competent in thinking, talking, and asking about evaluation. It is no longer a mysterious field entered by outside experts, but an area in which everyone can explore, contribute, and understand.

Name_____ R

D

1. _____
   Position or Title Grade/Subject School and District
2. Is your teaching departmentalized? Yes ___ No ___
3. Please fill in the total number of students with whom you work using ECRI. _____
   a. Number of educationally handicapped or "special education" students. _____
   b. Number of bilingual students. _____
4. Please check the one most advanced ECRI training you have attended.
   _____ awareness _____ intermediate
   _____ initial _____ advanced
   _____ initial II _____ other
5. Please check the number of years you've been using ECRI.
   _____ this is my first year _____ this is my fourth year
   _____ this is my second year _____ this is my fifth year
   _____ this is my third year
6. A. Please check the average amount of time per day you use ECRI.
   _____ 0-1 hours
   _____ 1-2 hours
   _____ 2-3 hours
   _____ 3-4 hours

   B. Regarding the 1:2:1 time ratio, I
   _____ use it daily
   _____ use it weekly
   _____ use another ratio: _____
   Please describe;
7. What basal reading series or reading programs do you use?
8. Please check any of the follow-up statements which apply to you:
   _____ I use purchased mastery tests
   _____ I use locally developed mastery tests
   _____ I do not use master tests

Strategies

	not at all	occasionally	frequently	always
9. Please check indicating your use of the following strategies related to ECRI.				
a. Using an informal reading inventory to place students in appropriate group - maybe done by classroom teacher or reading specialist. (Comment)				
b. Testing students for mastery skills using the mastery tests and unit tests. (Comments)				
c. Daily, teaching language skills in the prescribed time ratio of 1:2:1 (skills: practice time: backup skills)				
d. Weekly, meeting to confer individually with students to diagnose and prescribe student responses. (Comment)				
e. Daily, holding a small group discussion to monitor student comprehension and develop students' oral language skills. (Comments)				
10. Please check the daily frequency with which you teach each below:				
a. new sounds				
b. new words				
c. creative writing				
d. comprehension				
e. penmanship				
f. dictation				
g. spelling				
h. study skills				
(comment)				

11. Check each of the following prescribed directives which you use.

a. **Word & Word Recognition**

New Sounds

1. _____ sound

New Words

2. _____ phonic
3. _____ sight
4. _____ word structure 1
5. _____ word structure 2
6. _____ word structure 3
7. _____ word structure 4
8. _____ word structure 5
9. _____ instant error correction (words)

b. **Penmanship**

1. _____ penmanship - letters
2. _____ penmanship - words
3. _____ penmanship - connecting strokes

c. **Study Skills**

1. _____ locational study skills
2. _____ alphabetizing
3. _____ surveying a book/chapt.
4. _____ graphic aids
5. _____ select topic
6. _____ select main idea
7. _____ evaluate relevance
8. _____ organize info. into outline
9. _____ following directions
10. _____ skimming
11. _____ scanning
12. _____ other (please specify)

d. **Dictation**

1. _____ single untimed
2. _____ multiple untimed
3. _____ single timed
4. _____ multiple timed

e. **Comprehension**

1. _____ literal comprehension
2. _____ inferences
3. _____ instant error correction comprehension

   "Critical"

4. _____ accuracy of info. - personal experience
5. _____ accuracy of info. - checking other material
6. _____ opinion vs. fact
7. _____ author's qualifications
8. _____ identifying fiction - famous people/events
9. _____ identifying fiction - realistic fiction
10. _____ identifying fiction - fan'sy
11. _____ propaganda techniques

    "Creative"

12. _____ put yourself in the story
13. _____ extend the story
14. _____ other (please specify)

f. **Spelling**

1. _____ part 1, trace, spell & read
2. _____ part 2, word formation
3. _____ part 3, word discrimination

g. **Creative Writing**

1. _____ 3 or 5 part letter
2. _____ sentence transformation
3. _____ imagery
4. _____ plot development
5. _____ story from a picture

(Comment)

MANAGEMENT

12. Check the frequency with which you

	rarely	occasionally	frequently	constantly
a. Respond to positive student behavior.				
b. Respond to negative student behavior.				

c. What concerns do you have about:

- responding to positive student behavior
- responding to negative student behavior

13. Check the frequency with which you use each of the following methods for setting the pace of learning in ECRI.

	not at all	occasionally	frequently	always
a. Pace determined by each student.				
b. Pace determined by teacher.				
c. Pace determined by each reading group.				
d. Other (please specify).				

14. Check the number of reading groups based on students' reading level which you teach in your class.

a. _____ 1

b. _____ 2

c. _____ 3

d. _____ 4 or more

15. Describe the criteria by which you move students among these groups.

a.

b.

c.

Recording

16. Check the individual record forms which you maintain.

a. _____ ECRI Record Form (results of mastery tests and student competency)

b. _____ ECRI Discussion Form

c. _____ ECRI Oral Reading to Teacher Form

d. _____ Other (please specify)

(comment)

17. Check those forms which students maintain.

a. _____ ECRI Enrichment Reading

b. _____ ECRI Pupil Record

c. _____ ECRI Practice Time Checklist

d. _____ ECRI Testing Card (date ready, level, date tested)

e. _____ ECRI Time Reading

f. _____ Other (please specify)

(comment)

18. Please rate your satisfaction with ECRI.

	Low 1	2	3	4	High 5
a. for yourself as a teacher					
b. for your students					

c. comments:

19. Please rate the help you get with ECRI from:

	Low 1	2	3	4	High 5
a. other teachers					
b. principal					
c. other administrators (reading, supervisor, etc.)					
d. consortium staff					
e. students					
f. comments:					

20. In what areas do you feel the greatest need for follow-up help at this time?